PORSF
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Childs, John

From: Keith Kroeger [kak@hartcrowser.com]
Sent: Friday, December 15, 2000 2:01 PM
To: childj@PortPtld.com
Cc: Howard Cumberland; Quinn@PortPtld.com
Subject: Water Quality Monitoring Program Proposal

Monitoring Scope.doc

Please review this DRAFT proposal for the Water Quality Monitoring Program. Feel free to contact us with any questions.

Thanks

Keith Kroeger
Aquatic Toxicologist

December 15, 2000

Mr. John Childs
Project Manager, Environmental Resources
Port of Portland
PO Box 3529
Portland, OR 97208

Re: Sampling and Testing Options of Dredged Material from Terminal 5, Berth 503, and Terminal 6, Berths 603-605

Dear Mr. Childs,

Hart Crowser is pleased to present this scope of work and cost proposal in order to conduct a field sampling and chemical analysis program that characterizes the water quality during the dredging of Terminal 5, Berth 503, and Terminal 6, Berths 603-605 sediments. The tasks proposed and estimated costs are outlined below.

PROJECT UNDERSTANDING AND APPROACH

Hart Crowser understands that the Port of Portland is going to dredge sediments at Terminal 5, Berth 503, and Terminal 6, Berths 603-605, and discharge this material to the sediment rehandling facility, located near Suttle Road. The Port is requesting a water quality monitoring program to assess the impacts of dredging at these berths and also at the point of discharge at the Suttle Road sediment rehandling facility. The water quality monitoring program will include monitoring turbidity at these berths analyzing water samples for contaminants of concern (organotins, pesticides, total suspended solids, and total and dissolved metals) at Terminal 6, Berths 603-605.

SCOPE OF WORK

The purpose of our proposed work is to assess site water conditions for potential turbidity impacts during dredging activities and the presence or absence of chemical contamination. We

have developed three tasks for this project that can be combined to accomplish monitoring programs with variable levels of intensity, depending on the Port's needs. The tasks are outlined below and are discussed in further detail in this section.

- Task 1 – DEQ Permit Requirements for Dredge Site Turbidity Monitoring only
- Task 2 – Dredge Site Physical Parameter Monitoring using the Seabird® CTD
- Task 3 – Dredge Site Sampling of Mid-water Column for Contaminants of Concern

Task 1 – DEQ Permit Requirements for Dredge Site Turbidity Monitoring only

At present, we do not know the specific DEQ water quality monitoring requirements. Therefore, this task has been scoped and costs estimated based on historic DEQ monitoring programs. Hart Crowser will assist the Port in assessing the impacts of dredging at Terminal 5, Berth 503, and Terminal 6, Berths 603-605 by monitoring turbidity levels at the surface of the water column at four sampling locations. Turbidity monitoring locations will be positioned at a minimum of 3 locations:

- Upstream of the point of dredging (background);
- Directly in the dredge plume; and
- Downstream of the point of dredging at the mixing zone.

Task 2 – Dredge Site Physical Parameter Monitoring using the Seabird® CTD

Hart Crowser will assist the Port in assessing the impacts of dredging at Terminal 5, Berth 503, and Terminal 6, Berths 603-605 by monitoring pH, turbidity, temperature, dissolved oxygen, and conductivity at the top, middle, and bottom of the water column using the Seabird® CTD. A total of three physical parameter monitoring locations will be positioned at a minimum of 3 locations:

- Upstream of the point of dredging (background);
- Directly in the dredge plume; and
- Downstream of the point of dredging at the mixing zone.

Task 3 – Dredge Site Sampling of Mid-Water Column for Contaminants of Concern

Hart Crowser will assist the Port in assessing site water quality during dredging activities for the absence or presence of chemical contamination. Water samples will be collected from the middle of the water column. At a minimum, we recommend collecting an upstream sample (background) and a downstream sample at the mixing zone boundary. Water samples will be submitted to Columbia Analytical Services (CAS) for analysis of organotins, total suspended solids (TSS), pesticides, and metals (total and dissolved).

ESTIMATED COST

The estimated costs for the above activities is based on a per day basis in accordance with the following breakdown:

Task 1 – DEQ Permit Requirements for Dredge Site Turbidity Monitoring only	$887/day
Task 2 – Dredge Site Physical Parameter Monitoring using the Seabird® CTD	$1302/day
Task 3 – Dredge Site Sampling of Mid-water Column for Contaminants of Concern*	$2717/day

*In Task 3, we have assumed analysis of two water samples ($619 each sample for the full suite of analyses). Additional samples can be collected and analyzed for $1000 each, which includes the additional cost of field collection, data validation and reporting. If Task 3 is required, daily costs need to be added to Task 1 or Task 2.

We appreciate this opportunity to submit our proposal and look forward to your favorable consideration. If we may provide any additional information or clarification of this proposal, please call us at (503) 620-7284.
Sincerely,

HART CROWSER, INC.

KEITH A. KROEGER
Staff Aquatic Toxicologist

HOWARD L. CUMBERLAND
Associate